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PHOTOGRAPHIC INTERPRETATION REPORT

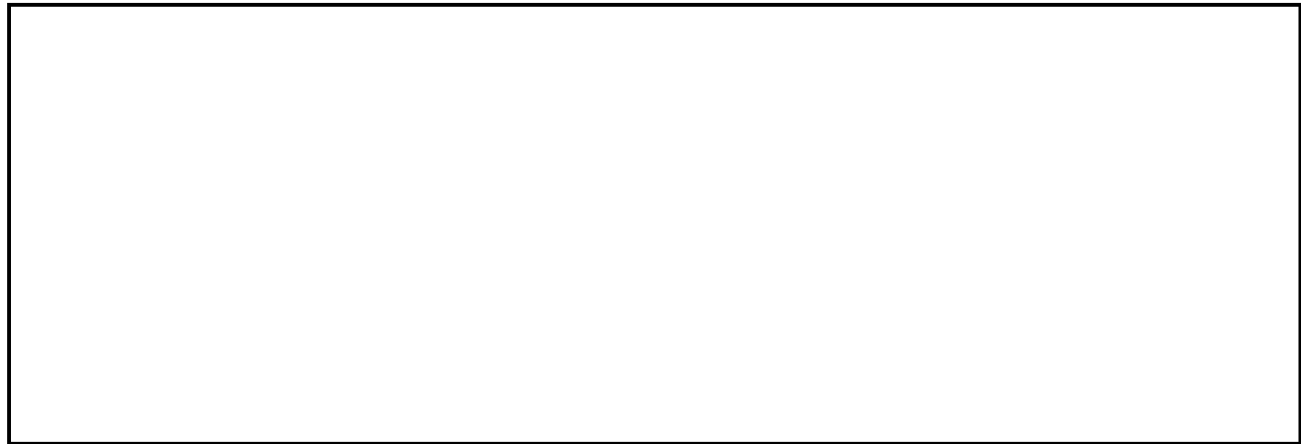
# WEAPONS TEST CELLS IN THE USSR, CHINA, EGYPT, AND AUSTRIA



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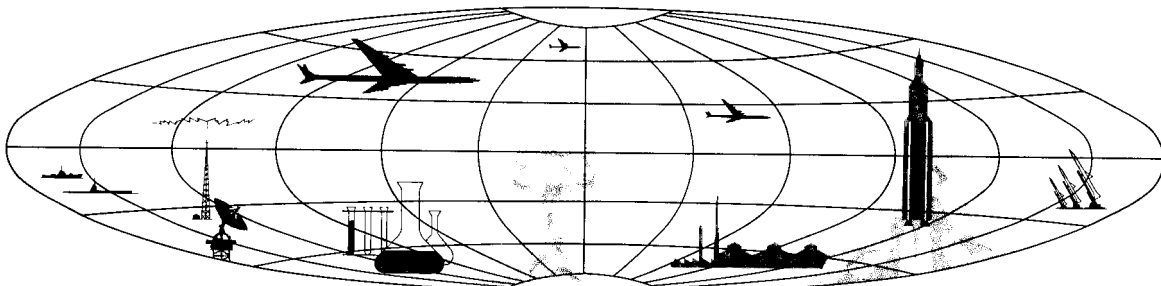


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## WEAPONS TEST CELLS IN THE USSR, CHINA, EGYPT, AND AUSTRIA

### INTRODUCTION

Eight unusual configurations, identified as weapons test cells, have been observed to date at 6 sites in the USSR, China, Egypt, and Austria. In the USSR the test cells were observed near Chapayevsk, Pavlograd, and Volsk; in China, near Pai-cheng; in Egypt, near Cairo; and in Austria, near Felixdorf (Figure 1). Five of the 6 sites have been associated directly or

Identification of the configurations as weapons test cells (formerly termed "baffle grids") is based on the following: a) the fact that all of them are located in areas which also contain explosives/munitions plants (the test cells in China are actually a component of an extensive weapons/munitions test com-

### FUNCTIONAL INTERPRETATION OF A WEAPONS TEST CELL

A weapons test cell is used to test model and actual munitions with respect to the distribution, range, and penetration of the fragments or contained missiles in various types of fragmentation or missile dispersion devices. The arcuate segments (Figure 2) of the weapons test cell are curved walls lined with, or consisting of, witness plates which record the distribution and/or penetration of missiles produced when the test device or munition is ex-

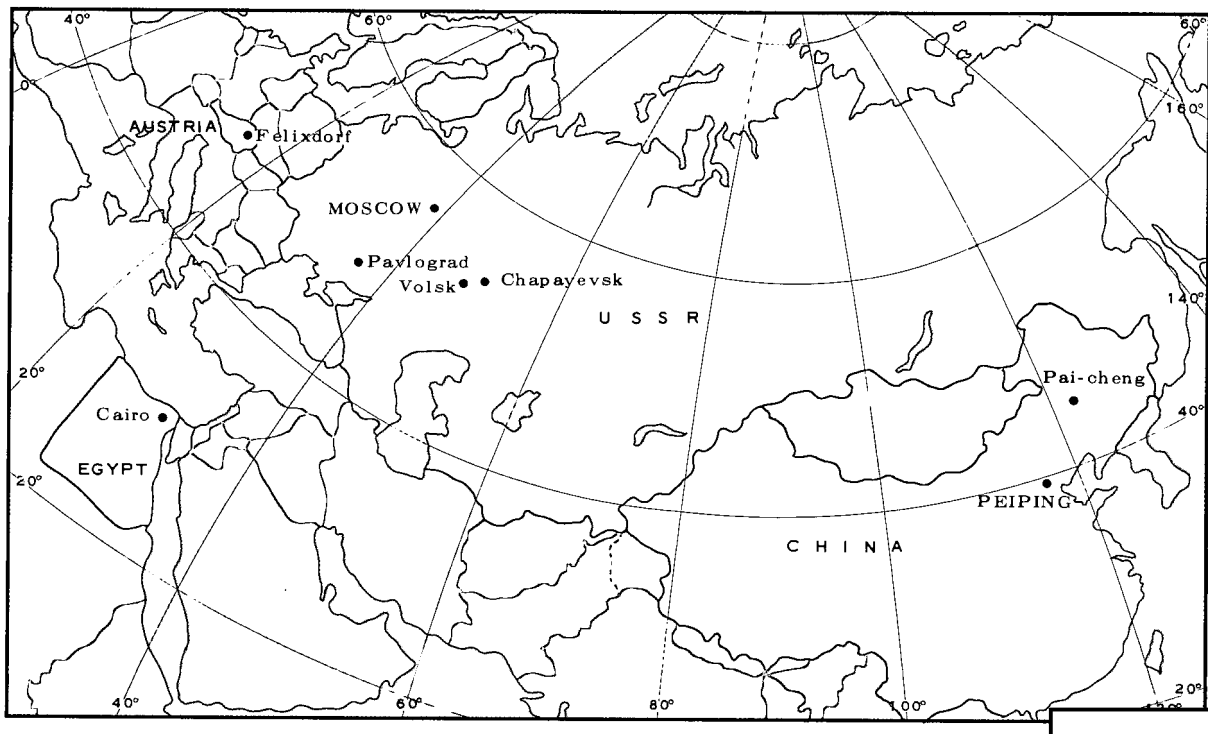


FIGURE 1. LOCATION MAP. Weapons test cells have been observed near the cities indicated in red.

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ploded. The data can then be collected and analyzed for the purpose of producing more effective munitions as well as for determining criteria for their use. The design of the facilities, although basically simple, permits collection of a maximum quantity of data per detonation and in a form readily subject to various forms of analysis.

#### PHYSICAL CHARACTERISTICS OF OBSERVED WEAPONS TEST CELLS

The physical characteristics of each weapons test cell observed in the USSR, China, and Egypt are presented in Figures 2-7. A summary of physical characteristics is presented in Table 1, which also includes the angles of arc in the test cells.

#### Weapons Test Cells in the USSR

Three weapons test cells have been observed in the Soviet Union, 1 each near Chapayevsk

and Pavlograd, and 1 at the Central Chemical Proving Ground, Shikhany, near Volsk. 2/

The test facility near Chapayevsk (Figure 2) is visible on [redacted] but had been dismantled by [redacted] the facility was located 2.5 nautical miles (nm) east-northeast of the city. Chapayevsk is the site of Chapayevsk Explosives and Munitions Loading Combines 309 and 15, Chapayevsk Chemical Plant 102, and [redacted]

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A second test cell (Figure 3) first seen on [redacted] photography, is located 6 nm east-southeast of Pavlograd, which is also the site of the Pavlograd Explosives Plant. The test cell is located beside the northern end of a long, narrow, cleared area that may be an artillery or tactical rocket test range.

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A third facility (Figure 4), located approximately 10 nm west-northwest of Volsk, [redacted]

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[redacted] Shikhany. In addition to numerous [redacted]



FIGURE 2. WEAPONS TEST CELL OBSERVED NEAR CHAPAYEVSK, USSR, [redacted]

The test cell was dismantled by [redacted]

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grids, test ranges, [redacted] explosives storage facilities, and other components, the

plant. The weapons test cell was first observed on photography of [redacted] This facility differs from the others described in this report in that 3 of the 5 arcuate segments apparently have rectangular openings of various sizes which may represent doors and windows. Any or all of these openings would probably be covered by witness plates during a test.

#### Weapons Test Cells in China

Three weapons test cells (Figures 5 and 6) appear to be integral parts of the weapons/ munitions test facility at Pai-cheng (Tao-an), China. 5/ One test cell was present on photography of [redacted] the other 2 [redacted]

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Two of the cells consist of 6 segments; the other cell has 5 segments.

A small, revetted control building is located between the pair of weapons test cells (Figure 5). This building was present in [redacted] At that time, a similar pair of test cells was located approximately 2 nm to the east-north-east; these test cells have since been moved or abandoned.

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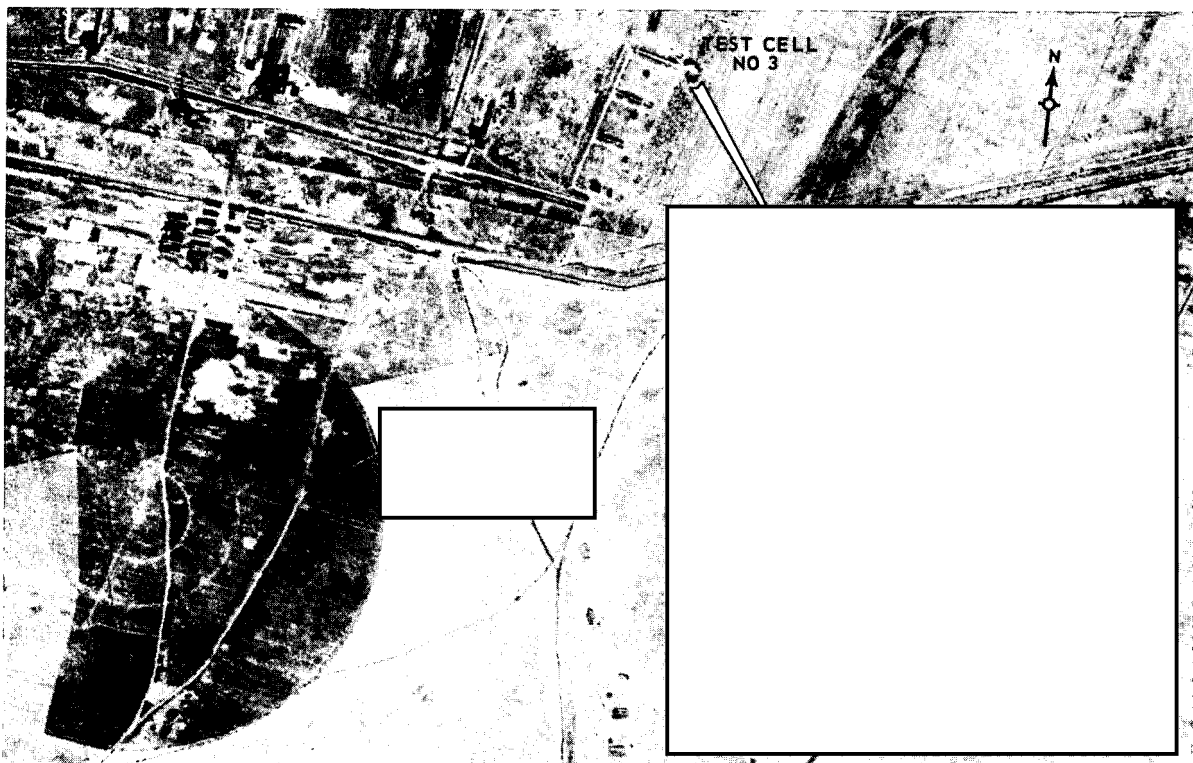


FIGURE 6. WEAPONS TEST CELL NEAR PAI-CHENG, CHINA, [redacted]

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which is diametrically opposed, whereas each of the test cells in the USSR and China consists of 5 or 6 segments.

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#### Weapons Test Cell in Egypt

The weapons test cell in Egypt (Figure 7) is located within the secured area of Plant 81 (Camp Huckstep Munitions Plant) which is approximately 11 nm northeast of Cairo. One segment of this facility was visible on [redacted] photography. Low oblique photography of [redacted] showed some or all of the segments lying flat on the ground; the complete facility with the segments erected was visible on photography of [redacted]. The Egyptian facility differs from those in the USSR and China in that it consists of only 4 segments, each pair of

#### Weapons Test Cell in Austria

Ground photography provides an additional example of a weapons test cell located in Felixdorf, Austria. This facility was designed to test plastic hand grenades and the walls or witness plates are located at distances of 2, 3, and 5 meters from the point of detonation. Figure 8 is a view of part of the test cell.

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FIGURE 7. WEAPONS TEST CELL NEAR CAIRO, EGYPT

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FIGURE 8. VIEW OF PART OF WEAPONS TEST CELL NEAR FELIXDORF, AUSTRIA

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Table 1. Physical Characteristics of Weapons Test Cells in the USSR, China, and Egypt

Location	Number of Segments	Length of Radii* (ft)	Height of Walls (segments) (ft)	Angles of Arcs** (degrees)
Chapayevsk, USSR	6			65, 65
Pavlograd, USSR	5			65, 55, 60
Volsk, USSR	5			60, 60, 60, 60, 70
Pai-cheng, China (Test Cell No 1)	5			52, 60, 55
Pai-cheng, China (Test Cell No 2)	6			55, 65, 55, 60, 60, 65
Pai-cheng, China (Test Cell No 3)	6			52, 76, 58, 70, 52, 59
Cairo, Egypt	4			85, 95, 85, 95

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\*The radii were measured to the center of the arcs, beginning with the arc closest to center of the circle, then next closest, etc.

\*\*The angle of arc is that angle formed by two radii extended to the edges of the arc. The angles were measured, in order, from the innermost arc to the outermost.

\*\*\*The heights given here are for the inner wall, the next 2 inner walls, and the outer wall, respectively.

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